Method and Apparatus for Embedding Advertisements in Audio Files for Internet and Network Distribution

Related Applications

1. This application is a continuation in part of provisional patent application serial number 06/177,534, filed January 21, 2000 and now abandoned by operation of law.

Technical Field

2. The present invention relates to distribution of advertising via computer networks. More particularly, the present invention relates to a method and apparatus for embedding advertisements in computer files, such as audio files, for distribution over the Internet, intranets or any other computer or digital network.

Background of the Invention

3. Electronic commerce on the Internet is a booming business model. Many e-commerce Internet businesses rely on advertising revenues as an important part of their revenue model. A vast majority of the Internet e-commerce sites rely on banner ads as the primary form of advertising at their sites. The present invention discloses an improvement over existing advertising models by disclosing a method and apparatus which enables e-commerce operators to deliver advertising to web site visitors and users by electronically embedding advertisements in computer files, such audio files, downloaded by the web site users. This invention causes the web site user (or the ultimate end user) to hear and/or see the advertisement as part of the file downloaded by the user.

4. In the prior art inserting advertising onto the users computer during downloading of a web page is disclosed by Judson U.S. 5,732,619 and 5,572,643. Advertising inserted into a home banking transaction is disclosed in U.S. patent 5,870,724. Advertising inserted into applications is disclosed in U.S. patent 5,819,092. Perkowski, U. S. patent 5, 950, 173 discloses a system and method for delivering consumer product related information to consumers within

retail environments using internet-based information servers and sales agents. Hobbs, U .S. patent 5, 987, 454 discloses a method and apparatus for selectively augmenting retrieved text, numbers, maps, charts, still pictures and/or graphics, moving pictures and/or graphics and audio information from a network resource. Picco et al U.S. patent 6, 029, 045 discloses a system and method for inserting local content into programming content. Heckel, U.S. Patent 6, 036, 601 discloses a method for advertising over a computer network utilizing virtual environments of games. None of these references suggest the advantage of providing a downloadable audio file having inserted therein a second message such as an advertisement.

Summary of the Invention

5. The invention in one embodiment provides a multimedia or audio data file suitable for transmission over a computer network that comprises a first segment having data which results in the delivery of a commercial advertising message when the data file is processed and a second segment comprising data which results in the performance of a musical composition when the data file is executed. Preferably the data file is in a wav file format, more preferably it is in a compressed file format, most preferably it is in an MP3 format. Alternatively the invention may be viewed as a method for distribution of advertising that comprises combining an audio data file that produces an advertising message when processed with a data file that produces a performance of a musical composition when processed. Preferably the method includes the step wherein the files are combined by use of a sound editor. More preferably the files are combined are combined by use of a hexadecimal editor.

6. Alternatively the invention may be viewed as a method for distribution of music which comprises providing a server connected to a computer network, permitting message data files to be provided for a fee paid by the party providing the message, purchasing rights to multimedia data files from owners of such rights and making available to endusers data files comprising a message and a licensed multimedia file by a connection to the network server. Preferably the method provides a multimedia file that comprises a musical composition. An especially preferred embodiment provides a multimedia data file that is an MP3 file comprising a musical composition.

advertisement or jingle at the beginning of the song. The jingle might say something like: "This

Brief Description of the Drawings

7. Figure 1 is a schematic of the distribution system according to the invention.

Figure 2 illustrates a message wav file in a sound editor.

Figure 3 illustrates a musical composition wav file in a sound editor.

Figure 4a illustrates the combined file of the invention in wav format and

Figure 4b indicates the insertion point of the advertising segment of the combined file.

Figure 5 illustrates a message file in a hexadecimal editor.

Figure 6 illustrates a musical composition file in a hexadecimal editor.

Figure 7 illustrates a combined file according to the invention in a hexadecimal editor.

Detailed Description of the Invention

8. Referring to Figure 1, in the preferred embodiment of the present invention, a web server makes songs or singles available for free download by web site visitors. Each single is a computer audio file containing a song with an advertisement appended to the beginning of the song. For example, a single containing a song by the artist Billy Joel, may have a five-second (or longer)

song is brought to you by Nike." The jingle may be a recording of spoken words or lyrics only, or the jingle may contain both lyrics and music. In any event, a song follows the jingle, in this case a single by Billy Joel.

9. Advertisers pay a certain sum of money to the web server or e-commerce site operator/owner for having the advertisement appended to particular singles. Advertisers may choose to target specific markets by choosing particular songs or particular genres of music. The web site operator or owner acquires the right to distribute the songs from artists. In exchange for the distribution rights, the web site owner/operator pays certain royalties to the artists. While there are many different ways of computing a royalty, in the preferred embodiment the artist receives five cents each time the artist's song is downloaded. Furthermore, the artist's song receives exposure to consumers all across the world through the Internet. This may be particularly

attractive to lesser-known or new artists who have not been successful at signing a recording contract with traditional recording studios and/or music publishers.

10. Still referring to Figure 1, the consumers, or web site visitors, on the other hand, are able to download music singles, from a variety of genres, for use free of charge. The advertising jingle appended to the beginning of all freely downloaded singles pays for this service. Consumers are not able to easily "remove" the jingle from the song. Therefore, each time the single is played, the user hears the advertisement. Once a user downloads a single, he or she can play the single on the computer using commercially available multi-media players. Alternatively, the user may save the audio file on, and transfer the file from, his computer to external multimedia playing devices, such as the Diamond Rio. This enables the user to hear the single away from his computer. In any event, whether the user plays the single on his computer, or plays the single on an external device, the user first hears the advertisement each time he listens to the song on the single.

11. Typically and preferably, an artist delivers a song to the web server in MP3 format. The delivery of the song to the web server is preferably accomplished by means of uploading the song to a particular Internet web site. The artist's song may also be available in other audio formats, such as the wav format.

12. Similarly, typically and preferably, an advertiser or a commercial sponsor delivers an audio recording of an advertisement in the MP3 format. The delivery of the advertisement is preferably accomplished by uploading the audio file, containing the advertisement, to a particular Internet web site. The length of advertisements may vary. Advertisements may be three to five seconds long, or much longer, such as 30, 40, or 60 seconds. Advertisements may exist in the MP3 format or other audio formats, such as the wav format.

13. An advertiser or commercial sponsor may request that an advertisement be prepared for them. In this case, the advertisement is first recorded in wav format and then converted to the preferred MP3 format. A digital audio recorder, or editor, is used to record the advertisement in the wav format. A typical three to five second advertisement might say something like: "This song is brought to you by Diet Coke." However, as previously stated, longer advertisements or advertisements using both lyrics and music may be used.

14. In the preferred embodiment of the present invention, the preferred audio format, for both advertisements and songs, is the MP3 format. Other audio formats may also be used. For example, an audio file in the wav format may be used. However, due to the large size of wav files,

transmission of wav files over the Internet requires relatively long download or upload time-periods. This transmission time can be substantially reduced by conversion of the wav file into an MP3 file. MP3 files are compressed audio files. Furthermore, MP3 files eliminate certain "unnecessary" sound frequencies which are not distinguishable by the average human ear. A typical five-minute song in the wav file format may require fifty to sixty megabytes of data storage space. The same song file in the MP3 format will likely require less than five megabytes of data storage space. Thus, there is approximately a twelve-to-one compression ratio between a wav file and an MP3 file.

15. In order to convert a wav file to an MP3 file, a commercially available file conversion utility is used. In the preferred embodiment of present invention, the commercially available software MusicMatch Jukebox, developed by MusicMatch, is used as the conversion utility software. As one of ordinary skill in the art will appreciate, the use of this conversion utility simply requires the loading of the software, MusicMatch Jukebox, followed by opening of the wav file within the utility. The MusicMatch software then allows the wav file format to be saved in MP3 format. Similarly, other audio formats may be converted to the MP3 format by use of similar commercially available utilities.

16. Before a song is made available for public distribution (download) via the Internet, the song is combined with an advertisement, to form a single audio file. If the song and the advertisement are both in the wav format, then the process of combining the song and the advertisement can be accomplished by a "cut-and-paste" process using a sound editor or recorder software, such as the commercially available Sound Forge XP for Windows, developed by Sonic Foundry, Inc.. This wav-file audio software process is described below:

Step 1. Using the sound editor or recorder software, the advertisement wav file is opened in a separate window of the software. See Figure 2.

Step 2. The song wav file is then opened in another window of the software. See Figure 3.

Step 3. The entire contents of the advertisement file window (from step 1 above) are then copied into the Windows clipboard.

Step 4. Next, the entire contents of the Windows clipboard are pasted at the beginning of the song file (in step 2 above). This action appends the advertisement file in front of the song file. See Figure 4(a) and 4(b). Figure 4(b) shows a line marking the advertisement insertion point.

Step 5. The combined file (in step 4 above) is now saved as a new audio file containing both the advertisement and the song file (in that order). This combined audio file remains in the wav format.

17. The combined file, containing both the song, as well as the advertisement, is now ready for distribution over the Internet. However, as previously mentioned, audio files in wav format are cumbersome to work with because of their very large size. Therefore, the combined file in wav format is preferably converted into the MP3 format suing the previously described process, using the MusicMatch JukeBox software.

18. The above described 5-step wav-file audio software process is a manual process and is not efficiently amenable for use in the high-volume commercial environment of an e-commerce Internet web site. Therefore, there is a definite need to speed up the process by use of a method that is amenable to efficient automation via computer programming. Furthermore, it is not efficient to work with audio files in the wav format. As previously mentioned, wav file formats require large storage spaces and require more computer processing time. The solution is found in the use of method that uses the MP3 file format throughout the process of combining the advertisement file and the song file into a single audio file. More specifically, the solution is found in the use of a HEX editor that can work directly with binary files. An MP3 file is a binary file. In the preferred embodiment of the present invention, the HEX editor A.X.E. (Advanced HEX Editor for Windows by Benjamin Peterson) is used. This software makes it possible to conduct the process of combining the advertisement and song files using the MP3 format. Thus, eliminating the need for the conversion from the wav format to the MP3 format after the combination process has been completed. However, if an artist or advertiser provides files in the wav format or any other

audio format, the file must be converted to the MP3 format before using the HEX-editor process described below:

Step 1. Open the advertisement MP3 file in separate window of the HEX editing software. See Figure 5.

Step 2. Open up the song MP3 file in another window of the same software. See Figure 6.

Step 3. Select all of the contents of the advertisement MP3 file (from step 1 above) and copy it into the Windows clipboard.

Step 4. Paste the contents of the clipboard (from step 3 above) in front of the song MP3 file (in step 2 above). See Figure 7.

Step 5. Save the combined song and advertisement MP3 file into a new file. The new file is in the MP3 format.

19. The advantages of using the HEX-editor process, described above, as opposed to the wav-file audio software process, described earlier in this disclosure, are the following:

1. The HEX-editor process is more amenable to automation, and more efficiently automated, by computer programming, than the wav-file audio software process. When using the HEX-editor process, a computer program is dealing directly with hexadecimal code, i.e., a hexadecimal representation of the underlying binary codes (zeros and ones) representing the advertisement and song audio files. Computer programs are well suited for manipulation of binary data represented by hexadecimal code. Whereas, the wav-file audio software process works with a graphical wav representation of the underlying song or advertisement binary data file, the HEX-editor process works with the hexadecimal representation of the same data. Computer programs, in general, do not work as efficiently with a graphical representation of binary data, as they do with a hexadecimal representation of the same data.

2. The automation described in 1 above allows the process to be used in a commercial environment where high volume transactions occur.
3. As previously mentioned, the MP3 file format requires less storage space, thereby using less computer resources and much more efficient in general.
4. No conversion is necessary from the wav format to the MP3 format, after the HEX-editor process is completed. Advertisement and song files are converted to the MP3 format at most once – if they are originally submitted in the wav or any other audio format. When using the wav-file audio software process, the combined file must be converted to MP3 format before it is made available for public distribution over the Internet.

20. Numerous variations and modifications will become apparent to those skilled in the art once the above disclosure is fully appreciated. It is intended that the invention embrace all such variations and modifications.